

Preface

The Transportation Geotechnics International Conference series began under the auspices of ISSMGE Technical Committee TC3 on Geotechnics of Pavements, chaired by Prof. A. Gomes Correia (2005–2009) and was initiated in 2008 at the University of Nottingham [1], UK, as an international event designed to address the growing requirements of infrastructure for societies.

The 2nd International Conference on Transportation Geotechnics [2] took place in 2012, in Sapporo, Japan, under the ISSMGE Technical Committee, renamed TC202 on Transportation Geotechnics (2009–2013).

Following the previous conferences, the 3rd International Conference on Transportation Geotechnics (3rd ICTG 2016) was held in Guimarães, Portugal, in September 2016. The conference was co-organised by the University of Minho and the Portuguese Geotechnical Society under the auspices of the ISSMGE Technical Committee TC202 on Transportation Geotechnics chaired by Prof. Erol Tutumluer (2013–2017). The conference ran with the support of TRB, IGS, ICT, RUTGERS, G-I and “Ordem dos Engenheiros”.

The challenges addressed by this conference included a better understanding of the interactions of geotechnics on roads, rails, airports, harbours and other ground transportation infrastructure with the goal of providing safe, economic, environmental, reliable and sustainable infrastructures.

The first day of the conference was composed of the first meeting of Young Transportations Geotechnics Engineers with the support of Elsevier and four workshops:

- Geosynthetics in transportation geotechnics
- Harbour geotechnics
- Non destructive technologies
- Ground improvement and soil stabilisation

The other three days included the inaugural Proctor Lecture by Prof. Buddhima Indraratna, published in volume 7 of Transportation Geotechnics journal (Elsevier), two keynote Lectures by Prof. Erol Tutumluer and Prof. Anand Puppala, published in volume 9 of Transportation Geotechnics journal, the Mercer Lecture (IGS) by Prof. Jorge Zornberg, as well as several invited lectures and oral and poster presentations. Together with a technical exhibition it is confirmed that this conference series has become one of the most important worldwide events on Transportation Geotechnics.

This book contains 182 peer-reviewed papers resulting from 292 accepted abstracts from 50 countries. Each submission was reviewed by at least 2, and on the average 2.6, committee members. The papers are grouped into ten chapters:

- Optimized geomaterial (including hydraulically bound materials and asphalt mixtures) use, reuse and recycling
- Unsaturated soil mechanics in transportation geotechnics
- Foundations and earth structures
- Slope stability, stabilisation, and asset management
- Mechanistic-empirical design

- Rail track substructures, including transition zones
- Subsurface sensing for transportation infrastructure
- Macro and Nanotechnology applied to transportation geotechnics
- Sustainability in transportation geotechnics
- Case histories

We would like to thank all the contributors for their high quality papers reviewed at least by two reviewers and managed by the convenors of each Chapter. This book would not be a success without the motivation of authors and the dedicated work of the convenors and many members of the several Committees, mainly the International Advisory Committee and the International Scientific Committee.

For the ISSMGE (International Society for Soils Mechanics and Geotechnical Engineering) Transportation Geotechnics is one of the most important fields of application of the fundamentals of soils mechanics for the benefits of society. It is of prime importance for many countries in the world. We hope that you will find the contents of this book of valuable use in this respect.



Professor António Gomes Correia
Conference Chairman, University of Minho



Professor Erol Tutumluer
Chairman of the ISSMGE-TC202 (2013-2017)



Ing. José L. Machado Vale
President of Portuguese Geotechnical Society



Professor Roger Frank
President of ISSMGE (2013-2017)

[1] Ed Ellis, Hai-Sui Yu, Glenn McDowell, Andrew R. Dawson, Nick Thom (Eds). *Advances in Transportation Geotechnics*. Taylor and Francis Group, 2008.

[2] Seiichi Miura, Tatsuya Ishikawa, Nobuyuki Yoshida, Yoshio Hisari, Nagato Abe (Eds). *Advances in Transportation Geotechnics 2*. Taylor and Francis Group, 2012.